Report Date: 19 Aug 2014

Summary Report for Individual Task
301-350-2205
Perform a Tactical Aerial Reconnaissance and Surveillance Mission
Status: Approved

Condition: In a MC-12 Series airplane under visual meteorological conditions (VMC) or instrument meteorological conditions (IMC) . Standard MOPP 4 conditions do not exist for this task. See the MOPP 4 statement for specific conditions.

Standard: Perform a tactical aerial reconnaissance and surveillance mission using common operational procedures that correctly plans and performs the mission profile.

Special Condition: None

Safety Risk: Low

MOPP 4: N/A

Task Statements

Cue: None

DANGER

None

WARNING

None

CAUTION

None

Remarks: 1. Non Standard Training Circular (NSTC) 3-04.350 and other publications not located on the Army Publishing Directorate (APD) website (http://www.apd.army.mil/) will be provided by the local command.

2. See NSTC 3-04.350 for a complete list of environmental considerations.

Notes: None

Performance Steps

1. Take crew actions.

a. The main focus of the pilot on the controls (P*) will be to:

(1) If VMC, maintain outside references to visually clear the aircraft for traffic and crosscheck for traffic on the traffic alert and collision avoidance system (TCAS).

(2) Monitor the flight management system (FMS) during initial climb out, en-route and to target acquisition.

(3) Crosscheck the pilot's mission computer or portable global positioning system (GPS) for proper airspace sector navigation and positioning. As the aircraft approaches the target, the P*'s focus should become oriented on the pilot's mission computer and/or portable GPS.

b. The pilot not on controls (P) will:

(1) Assist in keeping the area cleared visually and with the TCAS.

(2) Program and operate the FMS, pilot's mission computer, and portable GPS if available.

(3) Perform required radio transmissions and assist the P* during all tasks.

(4) Crosscheck the pilot's mission computer or situational awareness display (SAD) for proper TAC/TAP sector navigation during departure, en route sector navigation, and mission area positioning navigation.

(5) Verify all coordinates with the CE to validate their accuracy utilizing Navigational Coordinates Verification Procedures, as described below.

c. The CE will:

(1) Operate onboard mission systems in accordance with (IAW) Operator's Supplemental Procedures.

(2) Perform all required tactical radio transmissions and direct assistance from the P when the workload necessitates.

(3) Verify all coordinates with the P to validate their accuracy utilizing Navigational Coordinates Verification Procedures.

(4) Maintain situational awareness (SA) while tracking a dynamic target and provide the P* concise directions (i.e. headings / vectors).

(5) Alert the P* if he or she is approaching viewing limitations on the camera.

(6) Coordinate with the pilot in command (PC) to determine a safe suitable altitude to achieve mission requirements while providing standoff distance from threat and adequate obstacle clearance.

2. Perform pre-mission planning. The crew will collectively plan the flight from pre-mission briefing to mission completion.

a. The PC should assign mission planning duties and responsibilities.

b. The PC will evaluate the weather briefing information and determine the impact of the weather conditions throughout the mission.

c. The crew will review weather recall procedures, if appropriate.

d. The CE will obtain the mission tasking according to the unit standard operating procedure (SOP). The CE will coordinate with the supported unit Liaison Officer (LNO) to verify mission information and any changes from the original tasking in the Scheme of Maneuver (SOM). The CE will verify the following information prior to the pre-mission crew briefing:

(1) The time-on-target (TOT) and start point coordinates.

(2) The call-signs of all involved assets.

(3) Whether there will be an aircraft being relieved.

(4) Primary and secondary communication nets.

(5) The mission collection focus.

e. The CE will plot the start point coordinate in the digital mapping software such as FalconView and map out the aircraft's orbit pattern. The CE will coordinate with the PC and determine the airspace coordination requirements for the mission.

Note: The aircraft's flight profile and orbit will be dependent on the collection focus. It is essential that the orbit meets the correct collection parameters. For example, some COMINT systems require an altitude and depression angle that are different than that of the standard geospatial intelligence (GEOINT) orbit pattern for full motion video (FMV) collection.

f. The P will review the air tasking order (ATO) and special instructions (SPINS) and Frequency Allocation chart and ensure they are current. The P will plot the route to and from the collection area.

g. The P will record Mode 1, Mode 2, and Mode 3 codes, as appropriate and verify a fill device is available with current Mode 4, identification, friend or foe (IFF) keys.

h. The P and CE will review the threat for the mission.

i. The P will perform Data Transfer System procedures as required.

j. All crew members will participate in pre-mission briefing.

k. A designated briefing officer will provide a thorough and detailed mission brief to the PC IAW AR 95-1. The PC will acknowledge a complete understanding of the mission brief and initial DA Form 5484. As part of the mission approval process, the PC will perform a risk assessment and ensure the determined risk level is approved by the appropriate authority.

l. The PC has overall responsibility for the crew mission briefing and may direct other crewmembers to perform all or part of it.

m. Crewmembers will direct questions to the briefer and acknowledge understanding of the assigned actions, duties, and responsibilities. Lessons learned from previous debriefings should be addressed during the crew briefing, as applicable. If two or more Non Rated Crewmembers (NCMs) will perform flight duties, the mission manager will brief them on their individual responsibilities. One CE will be designated as the Mission Supervisor (MS).

n. Crewmembers will discuss dynamic reporting and re-tasking procedures, call-signs, and mIRC windows to be utilized for communications intelligence (COMINT) tasking with ground-based system operators or LNO as required.

o. Crewmembers will identify and discuss and any limiting factors that might affect the mission.

p. Following the pre-mission briefing the CE will contact the supported unit point of contact (POC) and advise them of any weather holds or maintenance delays.

3. Perform procedures prior to taxi.

a. The P properly initializes the portable GPS if available:

(1) Enters/modifies the target point (“A1”) or as briefed.

(2) Reads aloud to the crew the heading and distance to “A1” in order to verify accuracy in comparison with other onboard navigation systems.

(3) Sets up the intended proximity orbit size and page display;

(4) Secures the portable GPS if not mounted until the completion of the after takeoff checks.

b. The P properly initializes the pilot’s mission computer by:

(1) Setting the map displays to ensure proper sector navigation positioning and navigation.

(2) Set an orbit around the operators positioning data to 3.0 nm or as directed by the mission operator and ensure that data is being received from the mission equipment.

c. The P will properly initialize and program the FMS by performing the following:

(1) Perform manufacture’s recommended initialization procedures.

(2) Program initial flight plan based on the anticipated route of flight.

(3) Verify aircraft basic weight, enter crewmember weights, enter fuel on board, verify sufficient fuel quantity for the mission and verify the aircraft weight does not exceed aircraft or performance limitations.

(4) Confirm heading and distance with the CE to verify accuracy of onboard navigation systems.

Note: Navigational Coordinates Verification Procedures: When notified of destination coordinate the P will state, “READY TO COPY”. Once copied the P will state “READ BACK” and then read back the coordinates followed by “CONFIRM” The operator once verifying the coordinates as correct will state, “CORRECT”. Once the coordinates are entered into the FMS, the same verification procedures apply. All coordinates will be read back, beginning with the appropriate North, South, East and West verification. i.e. North 12345, East 12345.

(5) Select the correct waypoint in the FMS and confirm the FMS as the navigation source.

(6) Enter the search pattern into the FMS prior to reaching the initial start point.

4. Perform departure procedure. The FMS is the primary navigation instrument. The P operates the FMS based on P* requests and air traffic control (ATC)/tactical controller's clearances. The aircraft’s progress on the moving map on the pilot’s mission computer or portable GPS should be monitored by the P and P*for SA.

5. Perform en route procedure.

a. P correctly programs the FMS and monitors the pilot’s mission computer, SAD or portable GPS for SA.

b. P* follows FMS commands to the initial start point.

c. P initiates fuel check utilizing the FMS upon completion of the cruise check.

d. The CE will complete checks IAW Operator’s Supplemental Procedures and establish communications as briefed and as per SOP.

6. Perform procedures for start point arrival.

a. At a minimum of 10 NM from the start point the P* ensures that the aircraft has been correctly configured to the tactical situation, i.e. ASE, lighting, mission computer set-up, etc.

b. The P should maintain SA by comparing the aircraft navigation instruments and the pilot’s mission computer. While progressing inbound the P* announces to the crew "2 MINUTES FROM STATION", and adjusts the flight controls:

(1) To arrive at the desired radius of orbit at no slower than velocity Y, singel engine (VYSE).

(2) So as not to over fly the intended target.

(3) To be prepared to transition to a vehicle follow situation.

c. Upon arrival at the orbit, the P* should announce to the crew “ON STATION” and the P should call the controlling agency and advise on-station using Brevity Code as applicable.

7. Shift to a new start point during dynamic re-tasking.

a. The CE receives new mission start point or requires an offset from current orbit.

b. The CE will covert Military Grid Reference System (MGRS) to latitude (LAT)/ longitude (LON) (DDMM.MM) then relay the coordinate for the new mission start point to the pilots.

c. Utilizing the Navigational Coordinates Verification Procedures, the P copies and reads back the new coordinates provided by the CE.

d. The P will program the new start point into the pilot’s mission computer and portable GPS. Utilizing the pilot’s mission computer is critical to avoiding active restricted airspace and essential to maintaining SA. The P will determine the minimum safe altitude for the transit and for operating at the new point. The CE will also provide transit navigation via the SAD.

e. The P* transitions to the pilot’s mission computer, SAD or portable GPS as necessary to maintain the current orbit.

f. The P programs new start point into the FMS to include the search pattern. The P will verify accuracy of location utilizing all onboard navigation sources available and will use Navigational Coordinates Verification Procedures with the P* to ensure the correct coordinates are in the primary navigation system. The P obtains new airspace clearance from the controlling agency (if required) or airspace coordination with tactical controller prior to movement into any new airspace.

g. Once cleared to begin transiting to the new point, the P directs the FMS to the new start point and crosschecks the FMS with the pilot’s mission computer and portable GPS.

h. If a new orbit size is requested, the P must program the new size in the FMS search pattern and GPS. The P* may have to fly to the new orbit utilizing the pilot’s mission computer navigation data or portable GPS until the current navigation data is available from the FMS. The P notifies the P* when he or she has completed the programming and when the P* can proceed to the new orbit using the autopilot and FMS.

i. The crew will utilize the en route and start point arrival procedures detailed above to complete the shift to a new start point during dynamic re-tasking procedures.

8. Perform dynamic target procedures.

a. The P* will follow the CE directions (which may be vectors and/or navigating with the SAD or alternative operator display. Maintain given headings or the orbit depicted on available displays while the operator maintains contact with the dynamic target.

b. The P will assist the P* as necessary to ensure that the aircraft does not exceed the viewing limits of the sensor. The P must maintain SA and anticipate situations that require airspace coordination. The P must coordinate with the airspace controlling agency and request additional airspace clearances as early as possible to ensure the target is not lost due to airspace coordination requirements.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: 1. Evaluations will be conducted IAW AR 95-1, the commander's ATP, TC 3-04.11, and NSTC 3-04.350.

2. Training will be conducted in the classroom environment and the aircraft or an approved flight simulator (FS).

3. Evaluation will be conducted in the classroom environment and the aircraft.

Evaluation Preparation: Provide the Soldier with the materials listed in the conditions statement. Tell the Soldier to perform a tactical aerial reconnaissance and surveillance mission.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Took crew actions.			
a. The main focus of the P* was:			
(1) If VMC, maintained outside references to visually clear the aircraft for traffic and crosschecked for traffic on the TCAS.			
(2) Monitored the FMS during initial climb out, en-route and to target acquisition.			
(3) Crosschecked the pilot's mission computer or portable GPS for proper airspace sector navigation and positioning. As the aircraft approached the target, the P*'s focus became oriented on the pilot's mission computer and/or portable GPS.			
b. The P:			
(1) Assisted in keeping the area cleared visually and with the TCAS.			
(2) Programmed and operated the FMS, pilot's mission computer, and portable GPS if available.			
(3) Performed required radio transmissions and assisted the P* during all tasks.			
(4) Crosschecked the pilot's mission computer or SAD for proper TAC/TAP sector navigation during departure, en route sector navigation, and mission area positioning navigation.			
(5) Verified all coordinates with the CE to validate their accuracy utilizing Navigational Coordinates Verification Procedures.			
c. The CE:			
(1) Operated onboard mission systems IAW Operator's Supplemental Procedures.			
(2) Performed all required tactical radio transmissions and directed assistance from the P when the workload necessitated.			
(3) Verified all coordinates with the P to validate their accuracy utilizing Navigational Coordinates Verification Procedures.			
(4) Maintained SA while tracking a dynamic target and provided the P* concise directions (i.e. headings / vectors).			
(5) Alerted the P* if he or she is approached viewing limitations on the camera.			
(6) Coordinated with the PC to determine a safe suitable altitude to achieve mission requirements while providing standoff distance from threat and adequate obstacle clearance.			
2. Performed pre-mission planning. The crew collectively planned the flight from pre-mission briefing to mission completion.			
a. The PC assigned mission planning duties and responsibilities.			
b. The PC evaluated the weather briefing information and determined the impact of the weather conditions throughout the mission.			
c. The crew reviewed weather recall procedures, if appropriate.			
d. The CE obtained the mission tasking according to the unit SOP. The CE coordinated with the supported unit LNO to verify mission information and any changes from the original tasking in the SOM. The CE verified the following information prior to the pre-mission crew briefing:			
(1) The TOT and start point coordinates.			
(2) The call-signs of all involved assets.			
(3) Whether there will be an aircraft being relieved.			
(4) Primary and secondary communication nets.			
(5) The mission collection focus.			
e. The CE plotted the start point coordinate in the digital mapping software such as FalconView and mapped out the aircraft's orbit pattern. The CE coordinated with the PC and determined the airspace coordination requirements for the mission.			

f. The P reviewed the ATO and SPINS and Frequency Allocation chart and ensured they were current. The P plotted the route to and from the collection area.			
g. The P recorded Mode 1, Mode 2, and Mode 3 codes, as appropriate and verified a fill device was available with current Mode 4, IFF keys.			
h. The P and CE reviewed the threat for the mission.			
i. The P performed Data Transfer System procedures as required.			
j. All crew members participated in pre-mission briefing.			
k. A designated briefing officer provided a thorough and detailed mission brief to the PC IAW AR 95-1. The PC acknowledged a complete understanding of the mission brief and initialed DA Form 5484. As part of the mission approval process, the PC performed a risk assessment and ensured the determined risk level was approved by the appropriate authority.			
l. The PC had overall responsibility for the crew mission briefing and may have directed other crewmembers to perform all or part of it.			
m. Crewmembers directed questions to the briefer and acknowledged understanding of the assigned actions, duties, and responsibilities. Lessons learned from previous debriefings were addressed during the crew briefing, as applicable. If two or more NCMs performed flight duties, the mission manager briefed them on their individual responsibilities. One CE was designated as the MS.			
n. Crewmembers discussed dynamic reporting and re-tasking procedures, call-signs, and mIRC windows to be utilized for COMINT tasking with ground-based system operators or LNO as required.			
o. Crewmembers identified and discussed and any limiting factors that affected the mission.			
p. Following the pre-mission briefing the CE contacted the supported unit POC and advised them of any weather holds or maintenance delays.			
3. Performed procedures prior to taxi.			
a. The P properly initialized the portable GPS if available:			
(1) Entered/modified the target point (“A1”) or as briefed.			
(2) Read aloud to the crew the heading and distance to “A1” in order to verify accuracy in comparison with other onboard navigation systems.			
(3) Set up the intended proximity orbit size and page display;			
(4) Secured the portable GPS if it was not mounted until the completion of the after takeoff checks.			
b. The P properly initialized the pilot’s mission computer by:			
(1) Setting the map displays to ensure proper sector navigation positioning and navigation.			
(2) Set an orbit around the operators positioning data to 3.0 nm or as directed by the mission operator and ensured that data was being received from the mission equipment.			
c. The P properly initialized and programmed the FMS by performing the following:			
(1) Performed manufacture’s recommended initialization procedures.			
(2) Programed initial flight plan based on the anticipated route of flight.			
(3) Verified aircraft basic weight, entered crewmember weights, entered fuel on board, verified sufficient fuel quantity for the mission and verified the aircraft weight did not exceed aircraft or performance limitations.			
(4) Confirmed heading and distance with the CE to verify accuracy of onboard navigation systems.			
(5) Selected the correct waypoint in the FMS and confirmed the FMS as the navigation source.			
(6) Entered the search pattern into the FMS prior to reaching the initial start point.			
4. Performed departure procedure. The FMS was the primary navigation instrument. The P operated the FMS based on P* requests and ATC/tactical controller's clearances. The aircraft’s progress on the moving map, on the pilot’s mission computer or portable GPS was monitored by the P and P* for SA.			
5. Performed en route procedure.			

a. P correctly programed the FMS and monitored the pilot's mission computer, SAD or portable GPS for SA.			
b. P* followed FMS commands to the initial start point.			
c. P initiated fuel check utilizing the FMS upon completion of the cruise check.			
d. The CE completed checks IAW Operator's Supplemental Procedures and established communications as briefed and as per SOP.			
6. Performed procedures for start point arrival.			
a. At a minimum of 10 NM from the start point the P* ensured that the aircraft had been correctly configured to the tactical situation.			
b. The P maintained SA by comparing the aircraft navigation instruments and the pilot's mission computer. While progressing inbound the P* announced to the crew "2 MINUTES FROM STATION", and adjusted the flight controls:			
(1) To arrive at the desired radius of orbit at no slower than VYSE.			
(2) So as not to over fly the intended target.			
(3) To be prepared to transition to a vehicle follow situation.			
c. Upon arrival at the orbit, the P* announced to the crew "ON STATION" and the P called the controlling agency and advised on-station using Brevity Code as applicable.			
7. Shifted to a new start point during dynamic re-tasking.			
a. The CE received new mission start point or required an offset from current orbit.			
b. The CE coverted MGRS to LAT LON (DDMM.MM) then relayed the coordinate for the new mission start point to the pilots.			
c. Utilizing the Navigational Coordinates Verification Procedures, the P copied and read back the new coordinates provided by the CE.			
d. The P programed the new start point into the pilot's mission computer and portable GPS. The P determined the minimum safe altitude for the transit and for operating at the new point. The CE also provided transit navigation via the SAD.			
e. The P* transitioned to the pilot's mission computer, SAD or portable GPS as necessary to maintain the current orbit.			
f. The P programed new start point into the FMS to include the search pattern. The P verified accuracy of location utilizing all onboard navigation sources available and used Navigational Coordinates Verification Procedures with the P* to ensure the correct coordinates were in the primary navigation system. The P obtained new airspace clearance from the controlling agency (if required) or airspace coordination with tactical controller prior to movement into any new airspace.			
g. Once cleared to begin transiting to the new point, the P directed the FMS to the new start point and crosschecked the FMS with the pilot's mission computer and portable GPS.			
h. If a new orbit size was requested, the P programed the new size in the FMS search pattern and GPS. The P* may have had to fly to the new orbit utilizing the pilot's mission computer navigation data or portable GPS until the current navigation data was available from the FMS. The P notified the P* when he or she had completed the programming and when the P* could proceed to the new orbit using the autopilot and FMS.			
i. The crew utilized the en route and start point arrival procedures detailed above to complete the shift to a new start point during dynamic re-tasking procedures.			
8. Performed dynamic target procedures.			
a. The P* followed the CE directions (which may have be vectors and/or navigating with the SAD or alternative operator display. Maintained given headings or the orbit depicted on available displays while the operator maintained contact with the dynamic target.			
b. The P assisted the P* as necessary to ensure that the aircraft did not exceed the viewing limits of the sensor. The P maintained SA and anticipated situations that required airspace coordination. The P coordinated with the airspace controlling agency and requested additional airspace clearances as early as possible to ensure the target was not lost due to airspace coordination requirements.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	AR 95-1	FLIGHT REGULATIONS	No	No
	NSTC 3-04.350	Aircrew Training Manual, Multi-Mission Airplane, MC-12 Series	Yes	Yes
	TC 2-19.13	AERIAL EXPLOITATION BATTALION AND AERIAL RECONNAISSANCE BATTALION INTELLIGENCE OPERATIONS	No	No
	TC 3-04.11	Commander's Aircrew Training Program for Individual, Crew, and Collective Training	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

Prerequisite Individual Tasks : None

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
301-350-2240	Perform Airspace Management Support	301 - Intelligence (Individual)	Reviewed
301-350-2235	Conduct Dynamic (Ad-hoc) Re-tasking	301 - Intelligence (Individual)	Reviewed
301-350-2310	Perform Airborne Tactical Radio Operations	301 - Intelligence (Individual)	Reviewed
301-350-2320	Perform Multi-user Internet Relay Chat (mIRC) Reporting	301 - Intelligence (Individual)	Reviewed
301-350-2325	Perform On-Station Check-In	301 - Intelligence (Individual)	Reviewed

Supported Individual Tasks :

Task Number	Title	Proponent	Status
301-350-2225	Lead a Ground Unit to a Target	301 - Intelligence (Individual)	Reviewed
301-350-2220	Track a Moving Target	301 - Intelligence (Individual)	Reviewed

Supported Collective Tasks : None